

AMENDMENTS TO THE SPECIFICATION:

Please replace the paragraph beginning on page 4, line 28 through page 5, line 8, with the following amended paragraph:

Q' The manipulator 12 includes an arm 12a, a base portion 12b and a control device 12c. The arm 12a has joint axes J1 and J3, and the camera 11 is attached to the top thereof. Based upon an instruction signal S1 ~~outputted~~ output from the host computer 14, the control device 12c controls and drives the arm 12a and the base portion 12b. The manipulator 12 is operated so that the image-pick-up position and pick-up direction of the camera 11 can be controlled. In particular, images of the object Q can be picked up not only from the front side or the profile side, but also from the top thereof, with the camera 11 shifted to a desired position within a vertical plane. With respect to such a manipulator 12, various kinds of those known in the art may be used.

Please replace the paragraph beginning on page 5, line 9, with the following amended paragraph:

Q² The rotation stage 13 includes a turn table 13a, a driving device 13b and a control device 13c. The turn table 13a is a round plate that is rotatable around a rotation axis J2 in the vertical direction, and the object Q is placed thereon. The driving device 13b is provided with a motor, a gear, the rotation axis J2 and a rotation-angle detector, etc. Based upon an instruction signal S2 ~~outputted~~ output from the host computer 14, the control device 13c drives the driving device 13b. When the turn table 13a is rotated, the

Q² object Q placed thereon is also rotated so that the positional relationship between the object Q and the camera 11 is changed. By controlling the rotation stage 13 and the manipulator 12, images of the object Q can be picked up by the camera 11 from desired directions, and data QI on the three-dimensional shape of the object Q can be produced from a plurality of desired directions.

Please replace the paragraph bridging pages 5 and 6, with the following amended paragraph.

Q³ The CPU functions as a composer 141 to integrate a plurality of pieces of data QI on the three-dimensional shape ~~inputted~~ input from the camera 11 converting them into data QZ on the three-dimensional shape based on one coordinate system in cooperation with the peripherals. The CPU also functions as a viewpoint variator 142 to make the viewpoint of the image on the three-dimensional shape displayed on the display device 14b variable in accordance with an operation by the user.

Please replace the paragraph beginning on page 6, line 5, with the following amended paragraph:

Q⁴ Various programs such as an OS (operating system) program, an interface program, utility programs and application programs are installed in the hard disk, and these programs are executed by the central processing unit so that the composer 141 and the

Q⁴ viewpoint variator 142, which were described above, and a GUI (graphical user interface), which will be described later, are achieved.

Please replace the paragraph beginning on page 7, line 17, with the following amended paragraph:

Q⁵ When the virtual rotation stage image 13Z is rotated, an instruction signal S2 is ~~outputted~~ output from the central processing unit of the main body 14a to the control device 13c. Thus, the driving device 13b drives and rotates the turn table 13a in synchronism with the movement of the virtual rotation stage image 13Z. In other words, the rotation of the virtual rotation stage image 13Z is synchronous to the rotation of the actual turn table 13a so that the image state of the virtual rotation stage image 13Z displayed on the display screen HG and the image state of the turn table 13a picked up by camera 11 are controlled so as to be coincident with each other.

Please replace the paragraph bridging pages 8 and 9, with the following amended paragraph.

Q⁶ In the same manner as the case in which the virtual rotation stage image 13Z is rotated, it is possible to control the manipulator 12 by operating the mouse or giving numerical instructions through the key board. In accordance with the operation of the input device 14c, an instruction signal S1 is ~~outputted~~ output from the central processing unit of the main body 14a to the control device 12c so that the arm 12a and the base

Q⁶ portion 12b are driven. This makes it possible to pick up images of the object Q from above by the camera 11.

Please replace the paragraph beginning on page 10, line 25, with the following amended paragraph:

Q⁷ Since the object Q is also rotated following the rotation of the image QX2, the user can confirm the appearance of the image QX based on the data QZ on the three-dimensional shape on the display screen HG, and pick up an image thereof in this state so that data QI on the three-dimensional shape of the unobtained image portion is produced and ~~inputted~~ input.

Please replace the paragraph beginning on page 11, line 6, with the following amended paragraph:

Q⁸ As described above, the whole image of the data QZ on the three-dimensional shape which has been already produced and ~~inputted~~ input can be confirmed even during an image-pick-up stage so that it is possible to easily confirm the presence of any unobtained image portion QZN, or the state, position, etc. thereof. Moreover, by bringing the image QX displayed on the display screen HG to a desired state for image-pick-up, an actual image is readily picked up in this state; therefore, it is possible to easily obtain required data QI on the three-dimensional shape positively. Consequently, it becomes possible to

Q⁸ easily carry out the producing and input process of data QI on the three-dimensional shape positively without any unobtained data.

Please replace the paragraph beginning on page 12, line 5, with the following amended paragraph:

Q⁹ Next, when a notice that an object Q is placed on the rotation stage 13 is sent from the user (#2), and an image is picked up by the camera 11 and its data QI on the three-dimensional shape is ~~inputted~~ input to the computer 14 (#3). The ~~inputted~~ input data QI on the three-dimensional shape is composed as data QZ and displayed on the display screen HG as image QX. Here, a two-dimensional image QY is also displayed thereon (#4).

Please replace the paragraph beginning on page 12, line 25, with the following amended paragraph:

Q¹⁰ After the image-pick-up position of the camera 11 has been determined (yes at #9), data on the three-dimensional shape is again ~~inputted~~ input from the camera 11 (#3), and the above-mentioned process is repeated until the user has made a decision that the data on the three-dimensional shape is sufficient and has given a notice thereof (yes at #5).

Please replace the paragraph beginning on page 13, line 20, with the following amended paragraph:

Q¹¹ Data on the three-dimensional shape is again ~~inputted~~ input from the camera 11 (#13), and the above-mentioned process is repeated until the user has made a decision that the data on the three-dimensional shape is sufficient and has given a notice thereof (yes at #15).

Please replace the paragraph beginning on page 14, line 8, with the following amended paragraph:

Q¹² After the image-pick-up position of the camera 11 has been determined (yes at #28), data on the three-dimensional shape is again ~~inputted~~ input from the camera 11 (#23), and the above-mentioned process is repeated until the user has made a decision that the data on the three-dimensional shape is sufficient and has given a notice thereof (yes at #25).

Please replace the paragraph bridging pages 14 and 15, with the following amended paragraph.

Q¹³ Data on the three-dimensional shape is again ~~inputted~~ input from the camera 11 (#33), and the above-mentioned process is repeated until the user has made a decision that the data on the three-dimensional shape is sufficient and has given a notice thereof (yes at #35).

Please replace the paragraph beginning on page 15, line 15, with the following amended paragraph:

Q¹⁴ In Fig. 8, an object is picked up by the camera 11 held by hand so as to produce data QI on the three-dimensional shape, and the data are ~~inputted~~ input from the camera 11 to the computer 14 (#41). The ~~inputted~~ input data QI on the three-dimensional shape are combined as the data QZ and then displayed on the display screen HG as the image QX on the three-dimensional shape. Two-dimensional image QY is also displayed (#42).

Please replace the paragraph beginning on page 16, line 3, with the following amended paragraph:

Q¹⁵ After the image-pick-up position of the camera 11 has been determined and a notice thereof has been given (yes at #46), data on the three-dimensional shape is again ~~inputted~~ input from the camera 11 (#41), and the above-mentioned process is repeated until the user has made a decision that the data on the three-dimensional shape is sufficient and has given a notice thereof (yes at #43).